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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,587	06/04/2001	Lowell Winger	CISCP249/4147	5663

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EXAMINER	
LEE, RICHARD J	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/874,587	WINGER, LOWELL	
	Examiner	Art Unit	
	Richard Lee	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The request filed on August 11, 2005 for a Request for Continued Examination (RCE) is acceptable and a RCE has been established. An action on the RCE follows.

2. Upon further search and consideration, and in view of newly discovered references, the following new grounds of rejections are deemed appropriate. The Examiner apologizes for any inconvenience that this may have caused for the applicant. Further, the applicant's arguments from the amendment filed July 11, 2005 have been noted and considered, but are deemed moot in view of the following new grounds of rejections.

3. The applicant is informed that the patent application numbers 09/874,587 and 09/894,113, and the Office Actions for 09/894,113 as cited on the IDS filed July 11, 2005 have not been considered by the Examiner since these respective citations are not publications. It is also unsure why the applicant would want to make aware of the current pending application (09/874,587) as shown in the IDS. In any event, a line has been drawn through the respective citations as shown in the attachment.

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 6, 9, and 10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 6 sets forth a series of steps to be performed on a computer but merely solves a purely mathematical problem without any limitation to a practical application, and as such does not fall within the statutory classes set forth in 35 U.S.C. 101. And since dependent claims 9 and 10 are directed to further limitations showing no practical application, claims 6, 9, and 10 as a whole does not fall within the statutory classes set forth in 35 U.S.C. 101.

Suggestion to overcome rejection: Before "computer readable medium" at line 1 of claim 6, insert "computer program encoded on a".

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-7, 9, 11, 12, 17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murata et al of record (Fast 2D IDCT Implementation with Multimedia Instructions for a Software MPEG2 Decoder) in view of Singh et al of record (US 2002/0027954 A1).

Murata et al discloses an MPEG2 decoder system as shown in Figure 5, and substantially the same method for selecting and executing inverse discrete cosine transform algorithms, system for reducing iDCT execution time, and computer readable medium containing instructions for selecting and executing iDCT algorithms as claimed in claims 1-7, 9, 11, 12, 17, and 20, comprising substantially the same examining the coefficients of a DCT block to determine the position of the EOB coefficient (see page 3106, section 2.3, page 3107, section 3.1); selecting an iDCT algorithm from the plurality of iDCT algorithms according to the position of the EOB coefficient, wherein the iDCT algorithm is an iDCT high algorithm and an iDCT low algorithm available to the method (i.e., the iDCT 4 x 4 algorithm is considered an iDCT low algorithm and the iDCT normal algorithm is considered an iDCT high algorithm since the iDCT 4 x 4 will be selected if the EOB is less than 10 while the iDCT normal will be selected if the EOB is greater than 10, see Figure 5, page 3106, section 2.3, page 3107, section 3.1);

executing the iDCT algorithm (see pages 3107, sections 3.1 and 3.2); determination means for determining the position of an EOB coefficient in a DCT block (see page 3106, section 2.3, page 3107, section 3.1), selection means for selecting an iDCT algorithm based upon the position of the EOB coefficient (i.e., the iDCT 4 x 4 algorithm is considered an iDCT low algorithm and the iDCT normal algorithm is considered an iDCT high algorithm since the iDCT 4 x 4 will be selected if the EOB is less than 10 while the iDCT normal will be selected if the EOB is greater than 10, see Figure 5, page 3106, section 2.3, page 3107, section 3.1), execution means for executing the iDCT algorithm (see pages 3107, sections 3.1 and 3.2); wherein the iDCT high algorithm is based upon an EOB of 39 or 40 (i.e., since the iDCT normal algorithm is considered an iDCT high algorithm, and since the iDCT normal algorithm is selected if the EOB is greater than 10, an EOB of 39 or 40 is included in such iDCT high algorithm selection, see Figure 5, page 3106, section 2.3, page 3107, section 3.1); a plurality of iDCT algorithms comprising an iDCT high algorithm and an iDCT low algorithm (i.e., the iDCT 4 x 4 algorithm is considered an iDCT low algorithm and the iDCT normal algorithm is considered an iDCT high algorithm since the iDCT 4 x 4 will be selected if the EOB is less than 10 while the iDCT normal will be selected if the EOB is greater than 10, see Figures 4 and 5, page 3106, section 2.3, page 3107, section 3.1), and wherein the plurality of iDCT algorithms includes one of iDCT Normal, iDCT AC, iDCT high, iDCT low and iDCT DC (see page 3106).

Murata et al does not particularly disclose, though, selecting an iDCT algorithm using an EOB histogram for B-frames, wherein the iDCT algorithm is an iDCT high algorithm selected/determined using an EOB histogram of the first B-frame of a shot, wherein the iDCT algorithm is an iDCT low algorithm selected/determined using an EOB histogram of the first B-

frame of a shot, wherein the iDCT algorithm is determined by creating an EOB histogram of the first B-frame of a shot as claimed in claims 1-6, 11, and 17. However, Singh et al discloses a method and device for gathering block statistics during inverse quantization and iscan as shown in Figures 1-3, and teaches the conventional use of histograms for the determination and selection of the most optimal IDCT algorithm of MPEG blocks of decoded data, which includes B-frames (see sections [0007] and [0011]). Therefore, it would have been obvious to one of ordinary skill in the art, having the Murata et al and Singh et al references in front of him/her and the general knowledge of IDCT decoding processings within video decoders, would have had no difficulty in providing the determination and selection of an optimal IDCT algorithm based on histogram data for B-frames as taught by Singh et al to be included within Murata as part of another selection criteria of the various IDCT algorithms for the same well known improving of the IDCT computational efficiency purposes as claimed.

8. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murata et al of record (Fast 2D IDCT Implementation with Multimedia Instructions for a Software MPEG2 Decoder) in view of Youn et al (6,650,707).

Murata et al discloses an MPEG2 decoder system as shown in Figure 5, and substantially the same system for reducing iDCT execution time, as claimed in claim 14, comprising substantially the same plurality of iDCT algorithms comprising iDCT high, iDCT low, iDCT AC and iDCT DC (see iDCT DC and iDCT AC at page 3106, sections 2.2 and 2.3; the iDCT 4 x 4 algorithm and iDCT normal algorithm of Murata et al may be considered the iDCT low algorithm and the iDCT normal algorithm, for example, see Figure 5, page 3106, section 2.3, page 3107, section 3.1); a switch for selecting a selected algorithm from the plurality of iDCT

algorithms, the switch accepts as input a block of DCT coefficients, an EOB address, and a picture type rate (see Figure 5 and page 3106, section 2.3, page 3107, section 3.1), a computer processor for executing the selected algorithm (see pages 3107-3108, sections 3.1 and 3.2); wherein the iDCT high algorithm is selected based upon an EOB of 39 or 40 (i.e., since the iDCT normal algorithm is considered an iDCT high algorithm, and since the iDCT normal algorithm is selected if the EOB is greater than 10, an EOB of 39 or 40 is included in such iDCT high algorithm selection, see Figure 5, page 3106, section 2.3, page 3107, section 3.1).

Murata et al does not particularly disclose, though, the followings:

(a) the plurality of iDCT algorithms comprising the iDCT Normal as claimed in claim 14; and

(b) wherein the iDCT low algorithm is selected based upon an EOB value of 14 or 25 as claimed in claim 15.

Regarding (a), the particular use of a specified or any number of plural iDCT algorithms for selection purposes, is however old and well recognized in the art. Youn et al, for example, discloses in Figure 5, five different IDCT algorithms with specific criteria in determining and selecting of one of the five IDCT algorithms. Either iDCT algorithms as shown in block 512 or 516 of Figure 5 of Youn et al may hence be used as the iDCT Normal algorithm as claimed. Therefore, it would have been obvious to one of ordinary skill in the art, having the Murata et al and Youn et al references in front of him/her and the general knowledge of the selection of iDCT algorithms from a plural set, would have had no difficulty in providing the iDCT Normal algorithm as shown in either blocks 512 or 516 of Youn et al in order to be included within the

plural iDCT algorithms of Murata et al for the same well known refined selection of iDCT algorithms for computational efficiency purposes as claimed.

Regarding (b), in view of the plural breakdown of iDCT algorithms as shown in Figure 5 of Youn et al, it is hence considered obvious to modify the iDCT algorithm when EOB > 10 (520 of Figure 5) to include any desired amount of separate iDCT algorithms, such as the iDCT high and iDCT low algorithms as claimed. Therefore, it would have been obvious to one of ordinary skill in the art, having the Murata et al and Youn et al references in front of him/her and the general knowledge of the selection of iDCT algorithms based on the EOB of coefficients, would have had no difficulty in providing the iDCT low algorithm being based upon an EOB coefficient of 14 or 25 within the normal iDCT processing of Murata et al in view of the plural breakdown of iDCT algorithms within Youn et al for the same well known iDCT computational efficiency based upon the use of multiple breakdown of EOB coefficients purposes as claimed.

9. Claims 8, 10, 13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murata et al of record (Fast 2D IDCT Implementation with Multimedia Instructions for a Software MPEG2 Decoder) and Singh et al as applied to claims 1-7, 9, 11, 12, 17, and 20 in the above, and further in view of Youn et al (6,650,707).

The combination of Murata et al and Singh et al discloses substantially the same method for selecting and executing inverse discrete cosine transform algorithms, system for reducing iDCT execution time, and computer readable medium containing instructions for selecting and executing iDCT algorithms as above, further including a plurality of iDCT algorithms comprising iDCT high, iDCT low, iDCT AC and iDCT DC (see iDCT DC and iDCT AC at page 3106, sections 2.2 and 2.3 of Murata et al; the iDCT 4 x 4 algorithm is considered an iDCT low

algorithm and the iDCT normal algorithm is considered an iDCT high algorithm since the iDCT 4 x 4 will be selected if the EOB is less than 10 while the iDCT normal will be selected if the EOB is greater than 10, see Figure 5, page 3106, section 2.3, page 3107, section 3.1 of Murata et al); a switch for selecting a selected algorithm from the plurality of iDCT algorithms, the switch accepts as input a block of DCT coefficients, an EOB address, and a picture type rate (see Figure 5 and page 3106, section 2.3, page 3107, section 3.1 of Murata et al), a computer processor for executing the selected algorithm (see pages 3107-3108, sections 3.1 and 3.2 of Murata et al); and wherein the iDCT low and the iDCT high algorithms are determined based upon an EOB histogram of the first B-frame of a shot (i.e., the determination and selection of an optimal IDCT algorithm based on histogram data for B-frames as taught by Singh et al to be included within Murata et al for the iDCT low and iDCT high algorithms of Murata et al, see above paragraph (4)).

The combination of Murata et al and Singh et al does not particularly disclose, though, the followings:

(a) the plurality of iDCT algorithms comprising the iDCT Normal as claimed in claims 13 and 16; and

(b) wherein the iDCT low algorithm is based upon an EOB coefficient of 14 or 25 as claimed in claims 8 and 10.

Regarding (a), the particular use of a specified or any number of plural iDCT algorithms for selection purposes, is however old and well recognized in the art. Youn et al, for example, discloses in Figure 5, five different IDCT algorithms with specific criteria in determining and selecting of one of the five IDCT algorithms. Either iDCT algorithms as shown in block 512 or

516 of Figure 5 of Youn et al may hence be used as the iDCT Normal algorithm as claimed. Therefore, it would have been obvious to one of ordinary skill in the art, having the Murata et al, Singh et al, and Youn et al references in front of him/her and the general knowledge of the selection of iDCT algorithms from a plural set, would have had no difficulty in providing the iDCT Normal algorithm as shown in either blocks 512 or 516 of Youn et al in order to be included within the plural iDCT algorithms of Murata et al for the same well known refined selection of iDCT algorithms for computational efficiency purposes as claimed.

Regarding (b), in view of the plural breakdown of iDCT algorithms as shown in Figure 5 of Youn et al, it is hence considered obvious to modify the iDCT algorithm when EOB > 10 (520 of Figure 5) to include any desired amount of separate iDCT algorithms, such as the iDCT high and iDCT low algorithms as claimed. Therefore, it would have been obvious to one of ordinary skill in the art, having the Murata et al, Singh et al, and Youn et al references in front of him/her and the general knowledge of the selection of iDCT algorithms based on the EOB of coefficients, would have had no difficulty in providing the iDCT low algorithm being based upon an EOB coefficient of 14 or 25 within the normal iDCT processing of Murata et al in view of the plural breakdown of iDCT algorithms within Youn et al for the same well known iDCT computational efficiency based upon the use of multiple breakdown of EOB coefficients purposes as claimed.

10. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murata et al of record (Fast 2D IDCT Implementation with Multimedia Instructions for a Software MPEG2 Decoder) and Singh et al as applied to claims 1-7, 9, 11, 12, 17, and 20 in the above, and further in view of Jun et al (US 2001/60021268 A1).

The combination of Murata et al and Singh et al discloses substantially the same method for selecting and executing inverse discrete cosine transform algorithms, system for reducing iDCT execution time, and computer readable medium containing instructions for selecting and executing iDCT algorithms as above, but does not particularly disclose wherein the shot includes a sequence of frames bounded on each side by a video transition, the video transition includes one of a cut frame, a dissolve, or a cross-dissolve as claimed in claims 18 and 19. However, Jun et al discloses a hierarchical hybrid shot change detection method for MPEG compressed video as shown in Figures 2 and 6, and teaches the conventional video transitions involving shots that include editing effects such as a fades and dissolves within MPEG video data which includes B-frames of video (see sections [0010], [0012], [0015], [0041], [0047], [0048], [0050]). Therefore, it would have been obvious to one of ordinary skill in the art, having the Murata et al, Singh et al, and Jun et al references in front of him/her and the general knowledge of shot changes within MPEG video processings, would have had no difficulty in providing the video transition effects such as dissolves as taught by Jun et al within the video decodings of Murata et al for the same well known editing of videos purposes as claimed.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (571) 272-7333. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.

RICHARD LEE
PRIMARY EXAMINER

Richard Lee/rl

9/15/05